



Chapters 4, 5 & 6

Some insights & reflections

Australian Runoff Quality
A guide to Water Sensitive Urban Design



ENGINEERS
AUSTRALIA

International context

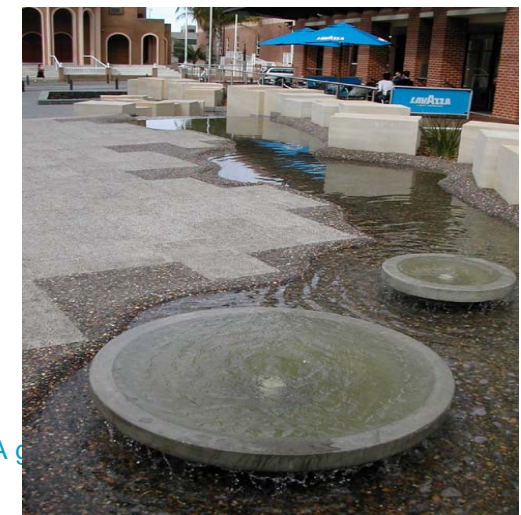
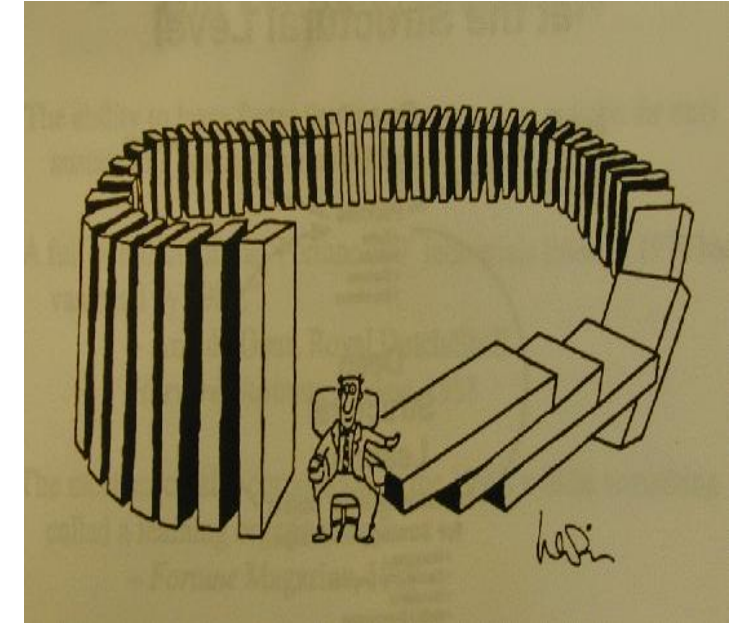
- Global water crisis
- International forums – pointing in the direction
- Shift from supply-side to management
- From sectoral to integration
- From single to multi to trans - disciplinary (where engineers colour in & planner calculate, and artist integrate)
- Understanding nature of the place
- Creating a restorative “urban ecology”
- Understanding & shifting the “conceptual ecology” of institutions & individuals



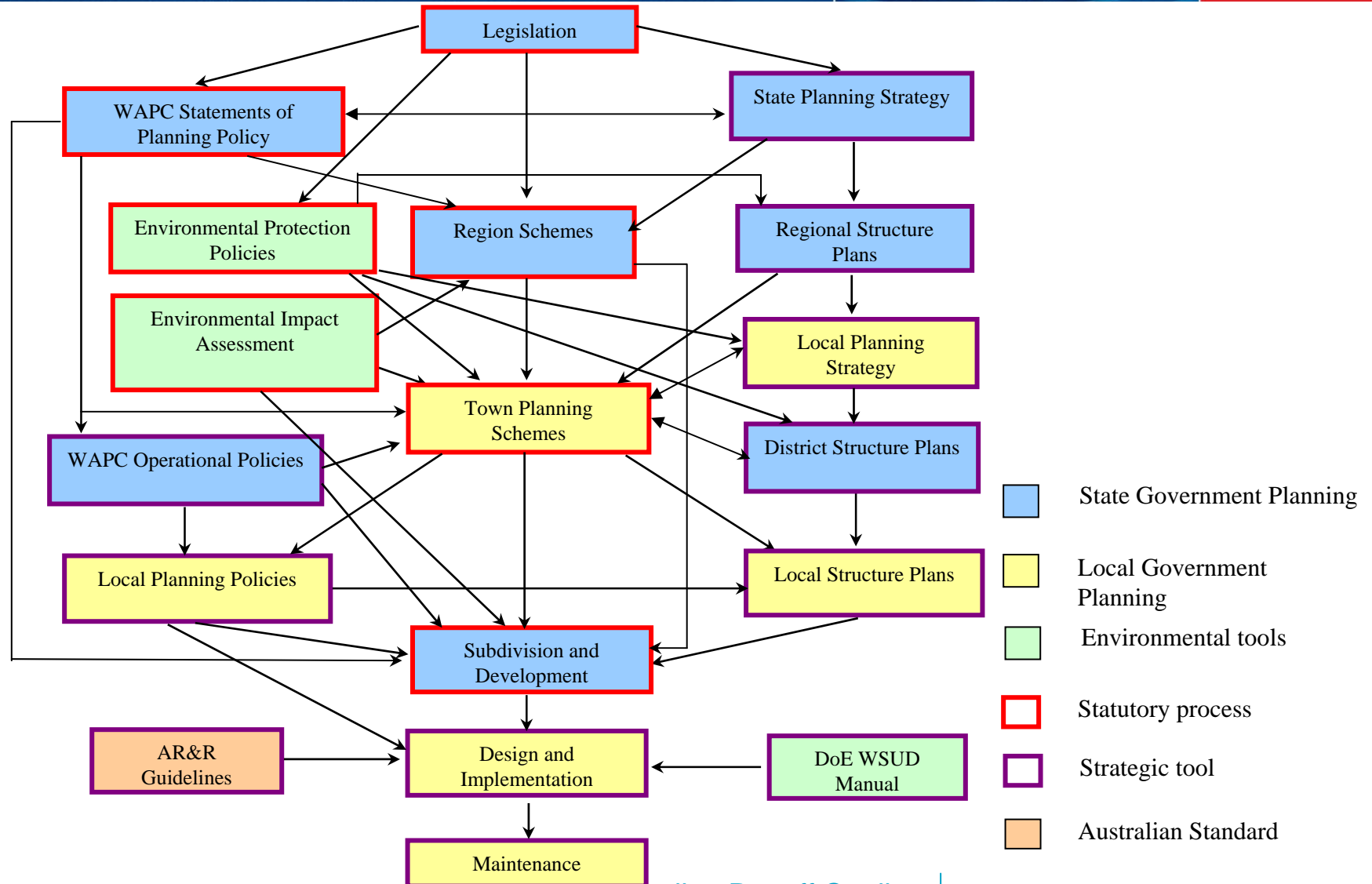
WSUD - origins, frustrations achievements

- Rapid urban growth & bumping into water environments – groundwater, wetlands – the wogal
- Bring land & water planning together
- Produce better places to live ...
- The length of time to institutionalise the changes (inter agency games)
- Lack political leadership (but the professions have not helped)

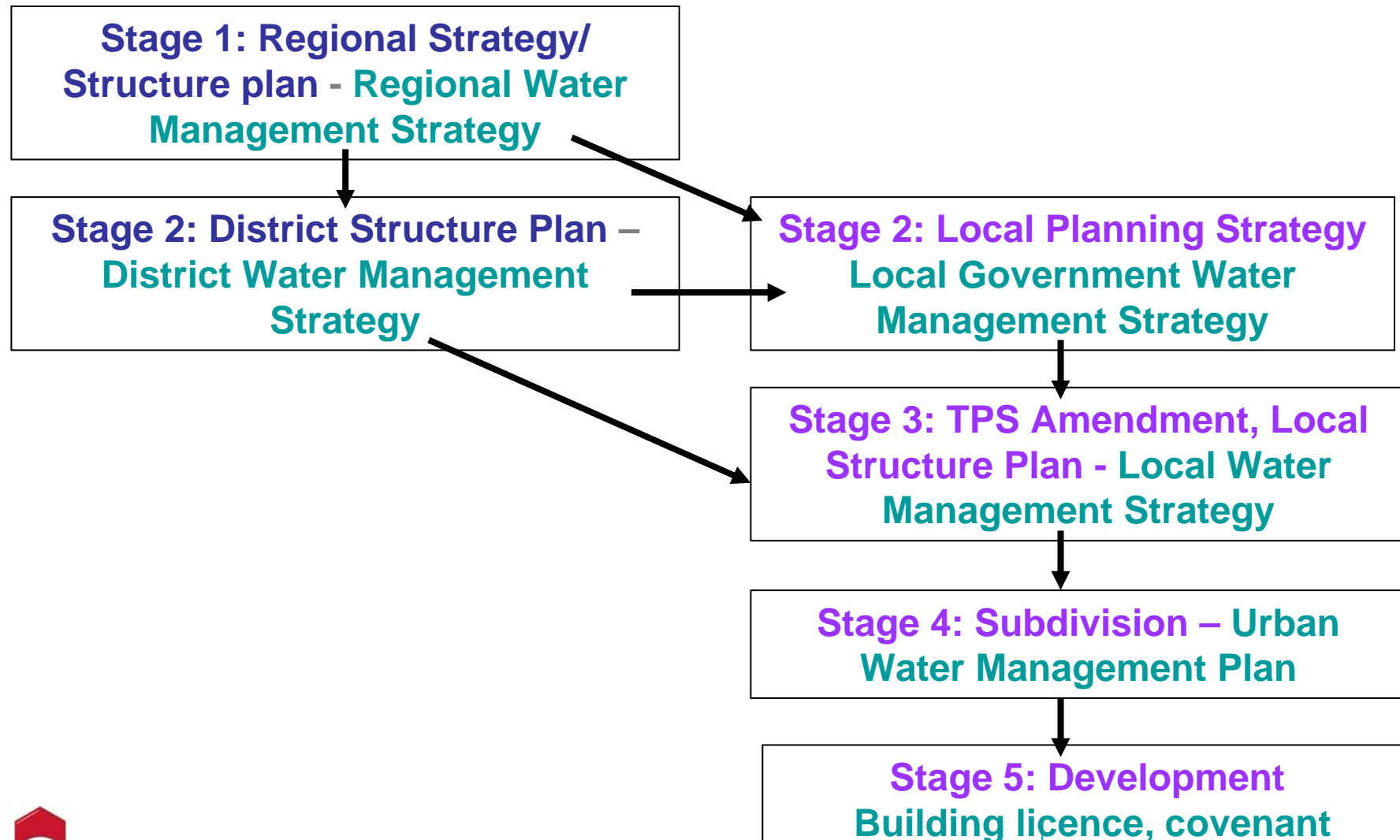
Examples on the ground



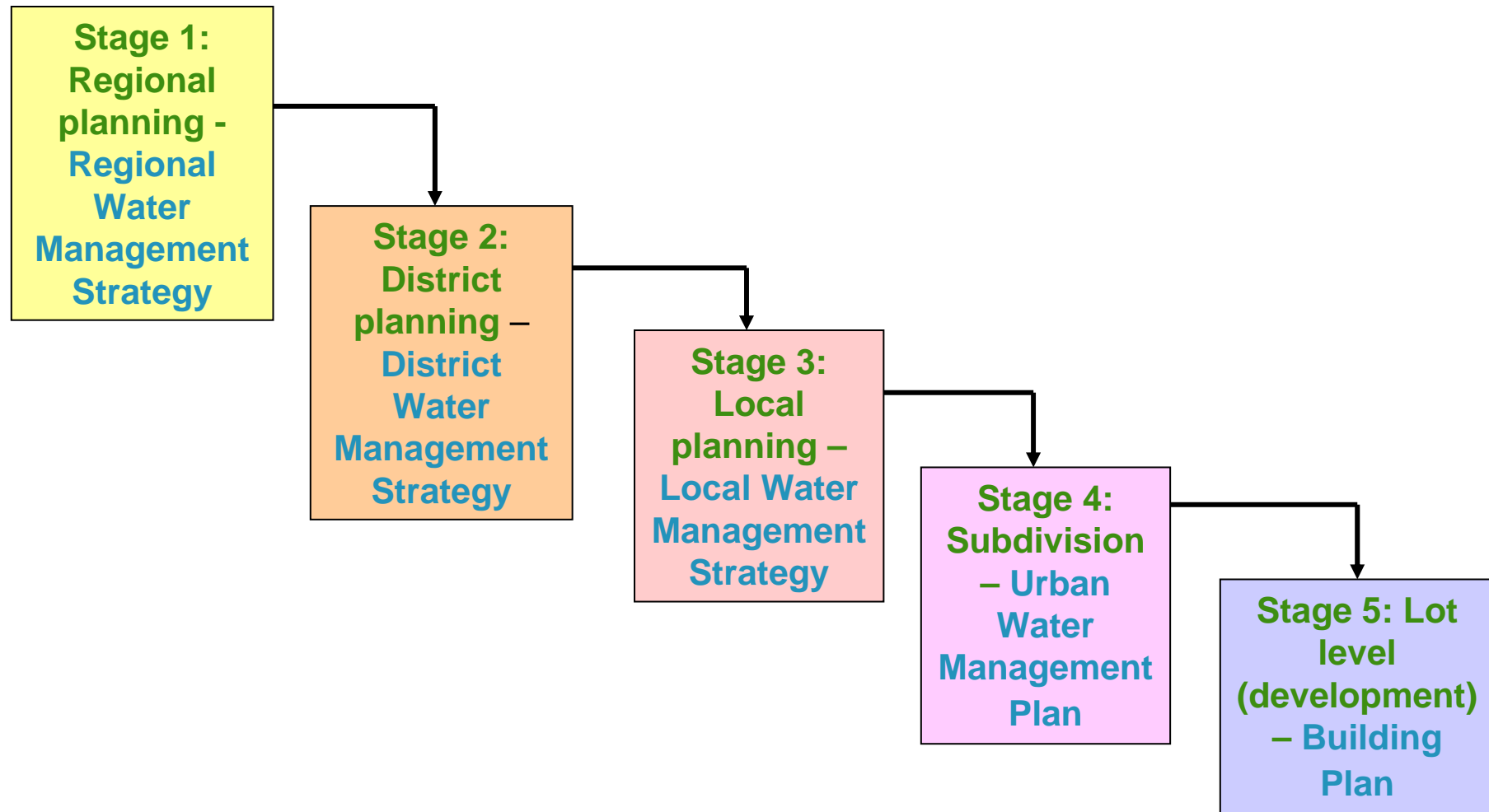
Statutory Process



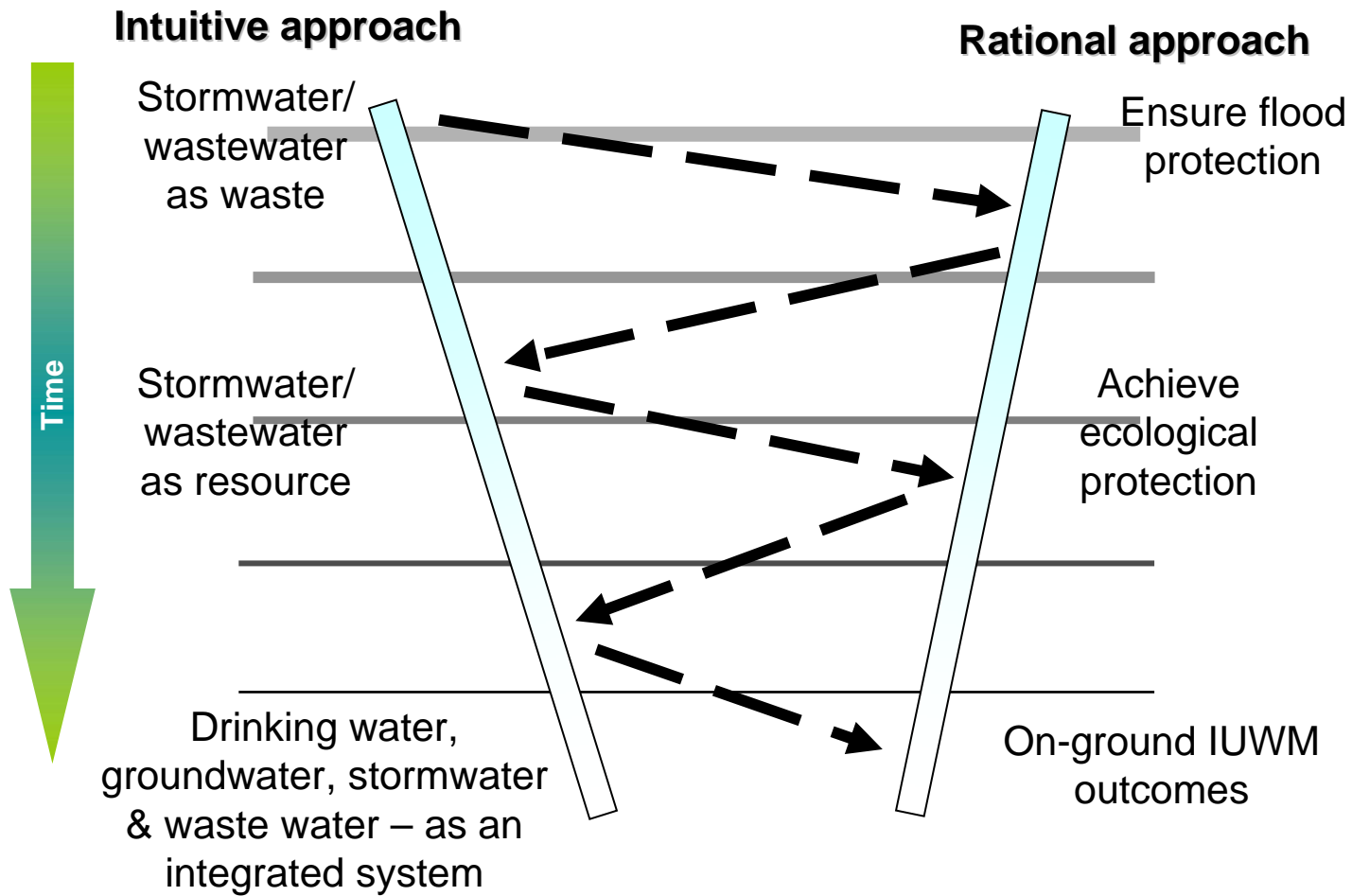
Implementation Strategy



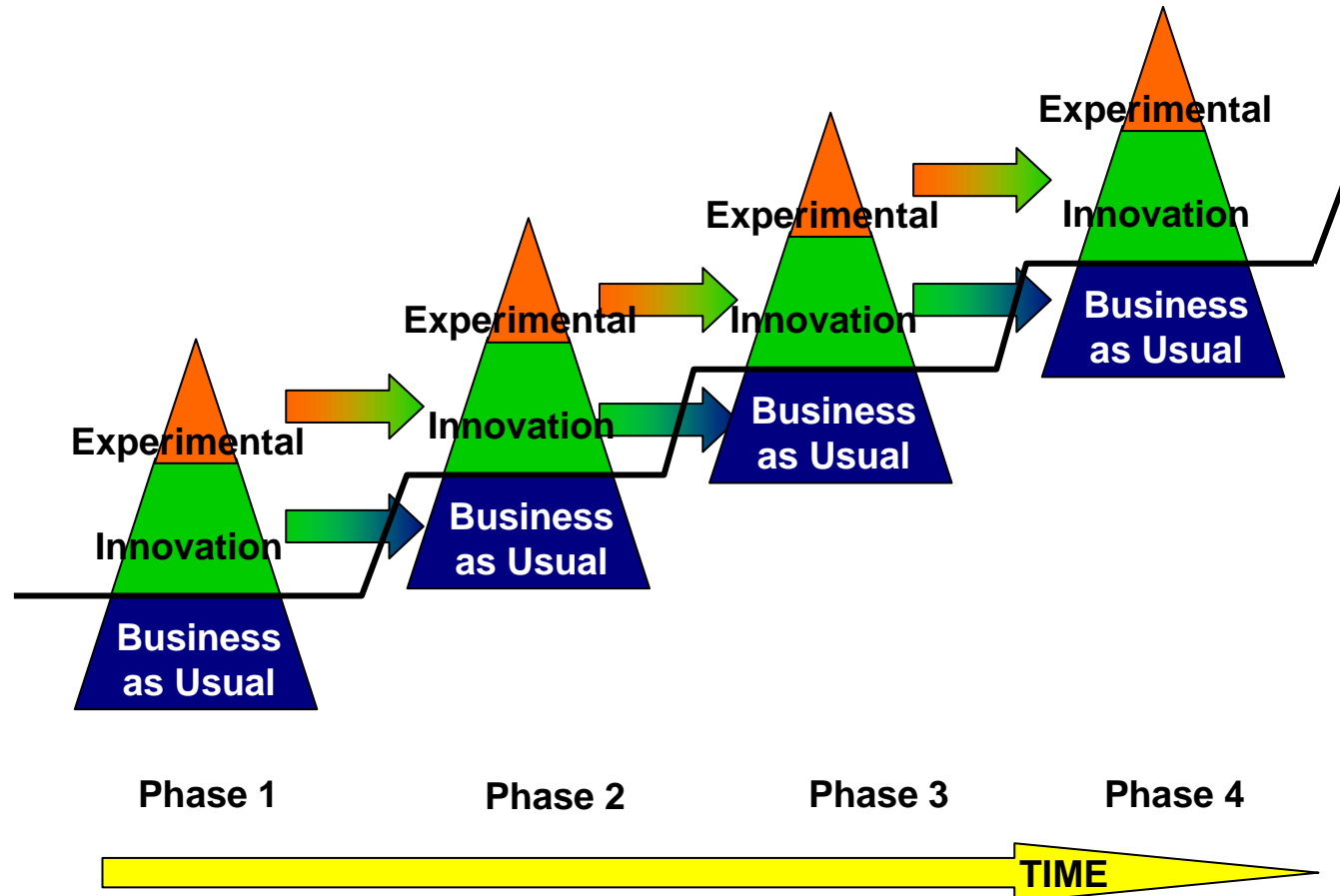
Proposed Implementation Strategy



Where we are going – changing the paradigm



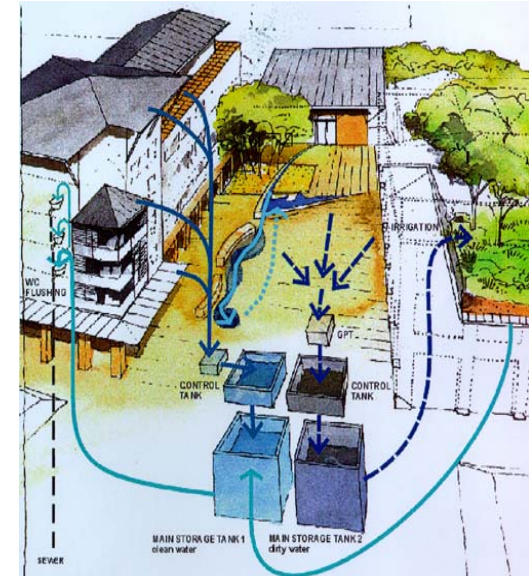
Key Element of Approach – Adaptive Learning



Investment in people, skills & technology

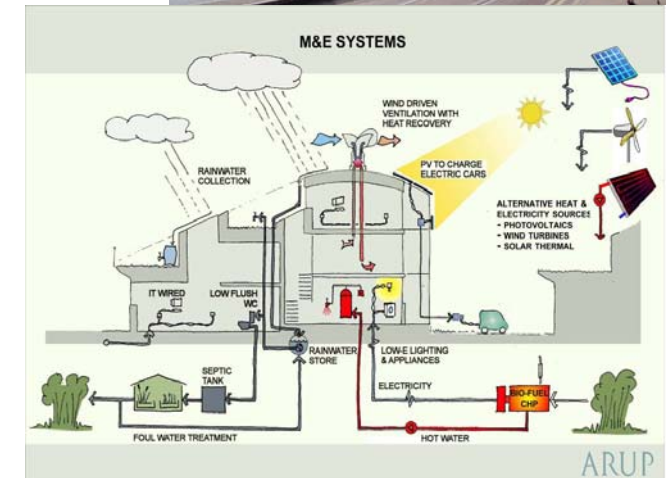
Integrated Urban Water Management

- Consider all parts of the water cycle:
 - natural and constructed, surface and sub-surface
- Consider all requirements for water:
 - anthropogenic and ecological
- Consider the local context:
 - environmental, social, cultural and economic perspectives
- Strive for sustainability:
 - balancing environmental, social and economic needs in the short, medium and long term



Integration means.....

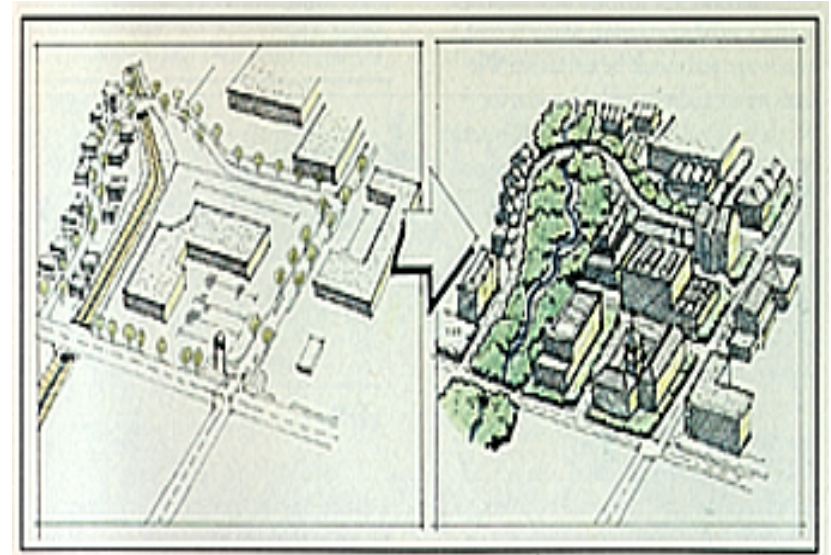
- Total water cycle view:
 - Water supply, Stormwater, Wastewater
- Considering whole process:
 - Planning, Development, Operation
- Involving all players and stakeholders
 - Organisations and community
- Expanding to interface with other sectors
 - Energy, transport...



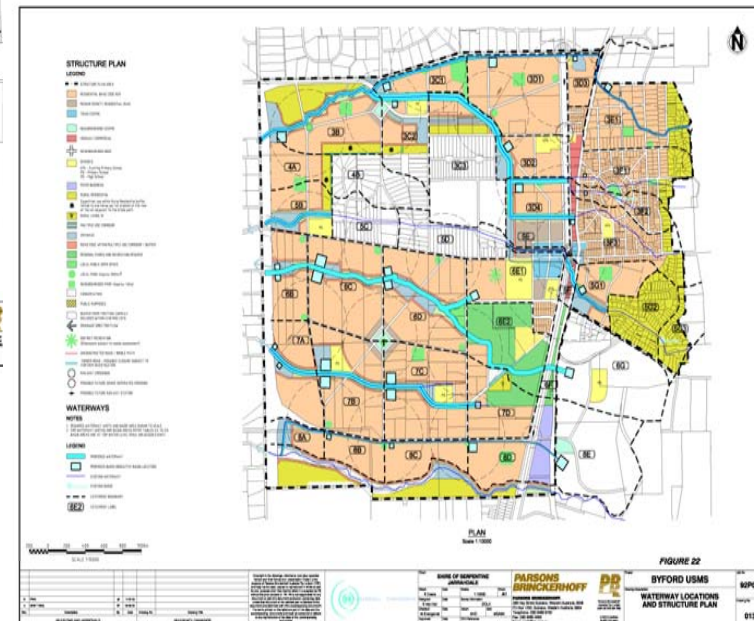
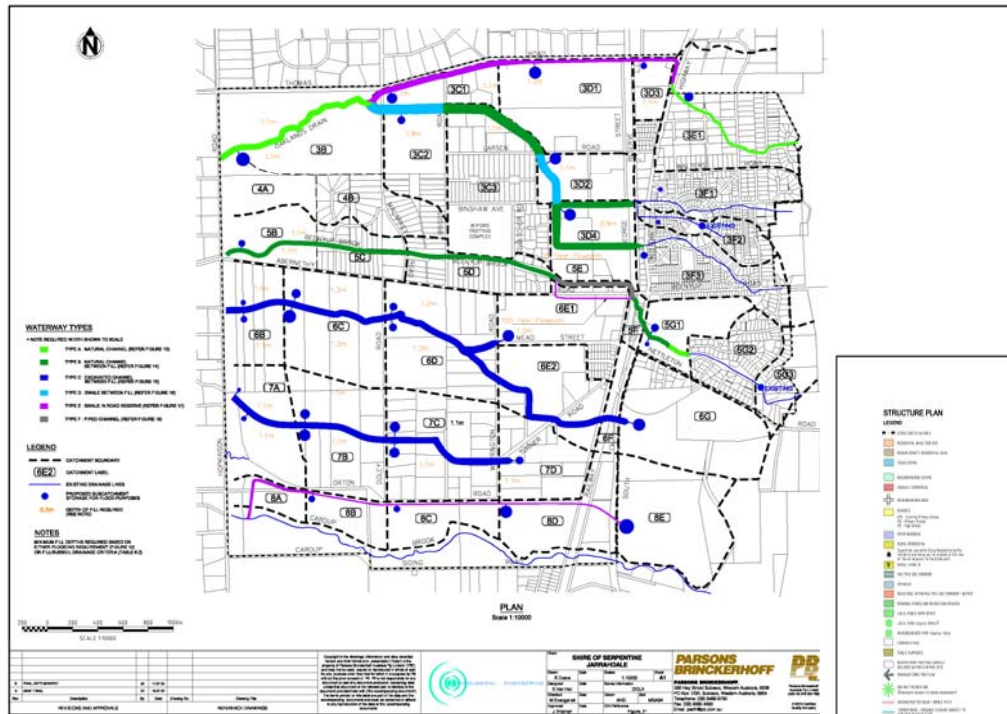
Integrated Urban Water Management



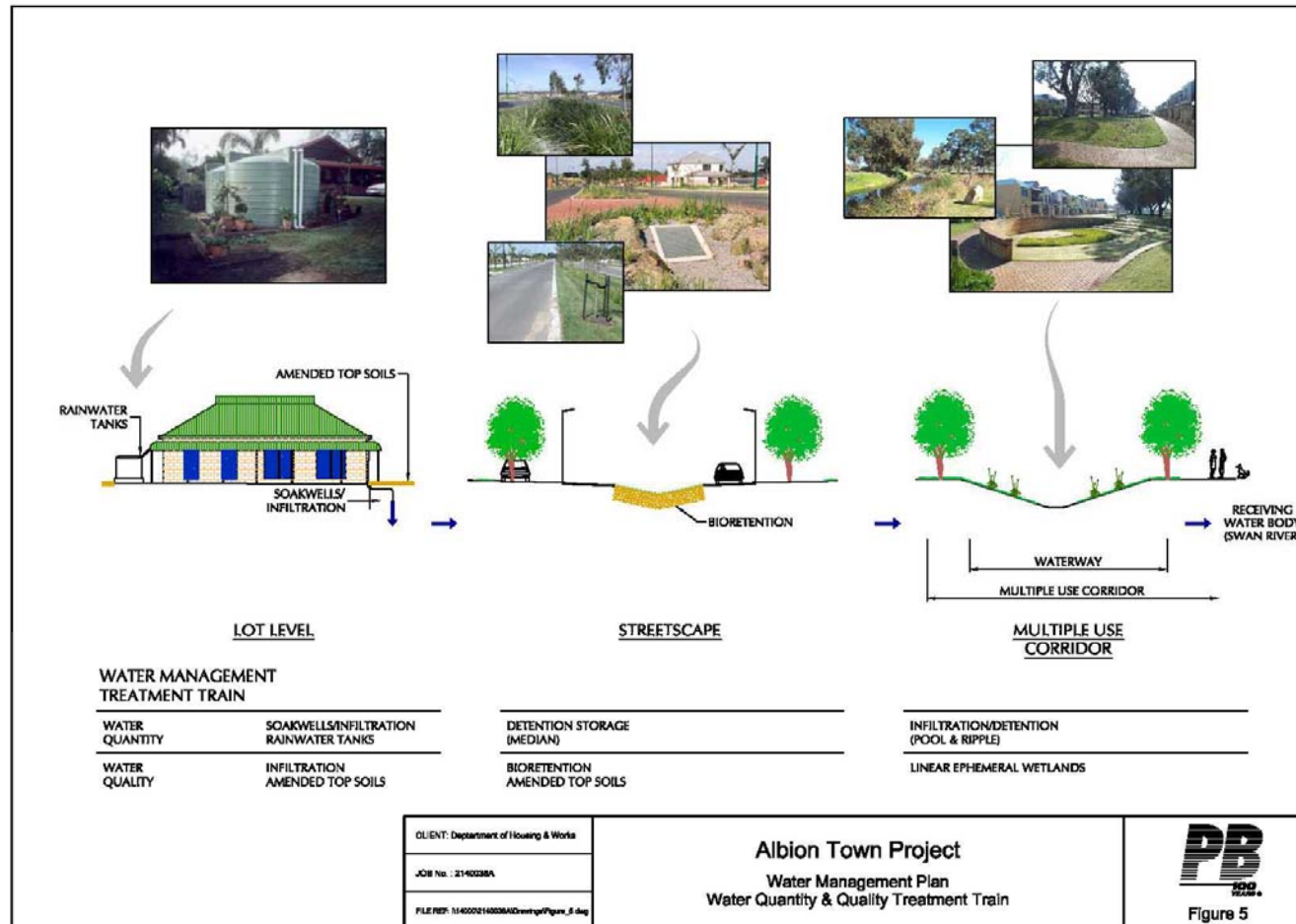
- Is a “technology-practice” – or emerging praxis
 - rather than a set of specific technologies
- Recognises technologies have:
 - Strengths and weaknesses
 - Fit within a larger context (system)
- Individual action seen in context of total urban water system
- Assess collective impact of all actions



Land & water integration



Design integration



Lots more to do

Vision of a Co-evolution of Human Settlements and Ecosystems

Hard and soft technologies designed and applied to “optimise” the production /consumption system of the city in terms of health of regional ecosystem, as well as human health and welfare. - designing an urban ecology – and it makes better real estate??

